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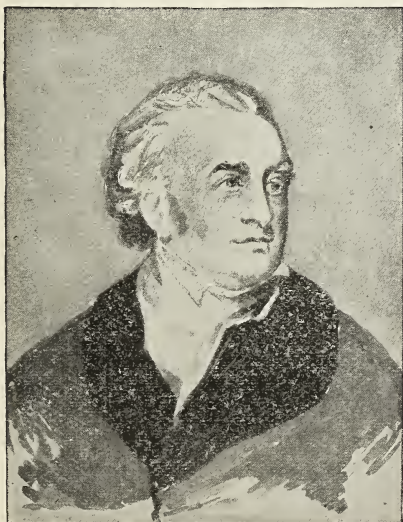
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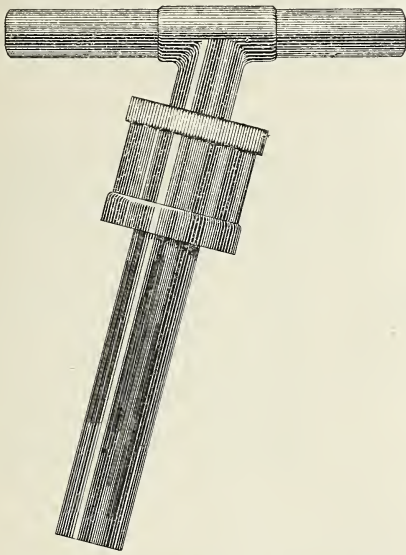
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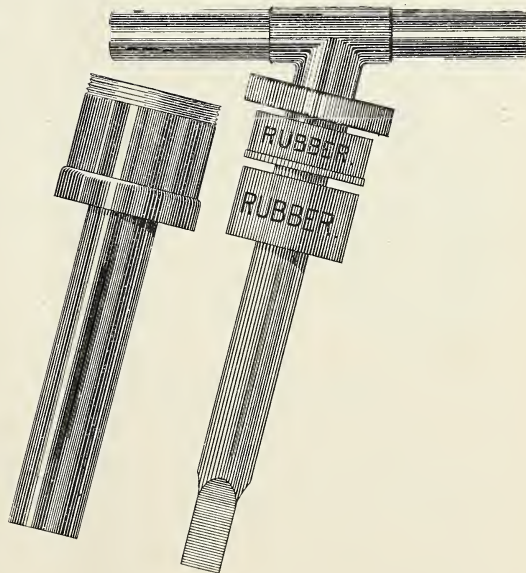
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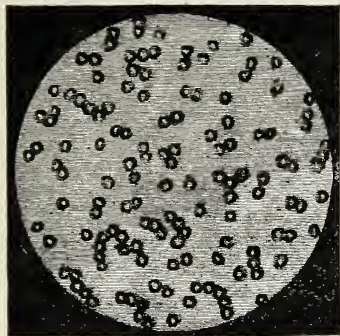
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MARYLAND MEDICAL JOURNAL

A Weekly Journal of Medicine and Surgery.

VOL. XXXVI.—No. 22. BALTIMORE, MARCH 13, 1897. WHOLE No. 833

Original Articles.

A FEW FACTS THAT EMPHASIZE THE IMPORTANCE OF MEDICAL INSPECTION OF SCHOOLS FOR THE PREVENTION OF DIPHTHERIA.

By Delano Ames, A. B., M. D.,

Lecturer on Pathology and Director of the Pathological Laboratories in the Baltimore Medical College;
Pathologist and Visiting Physician to the Maryland General Hospital; Pathologist to the
Union Protestant Infirmary; and Health Officer for Ocean City, Md.

READ BEFORE THE CONFERENCE OF HEALTH OFFICERS, HELD AT BALTIMORE, FEBRUARY 17 AND 18, 1897.

THE subject allotted to me for presentation this evening is one with which I feel sure you are all more or less familiar and concerning which each one has probably already formed his own opinion. I must therefore ask your indulgence if, in the following discussion, I refer to facts that have already been stated, and go over again the fundamental principles in a somewhat elementary manner, calling your attention to work on the prevention of disease in general before taking up the more special subject before us of the sanitary inspection of schools, with reference to the prevention of diphtheria.

While there are certain broad principles and general rules applicable to the sanitary control of all infectious diseases, of which every physician is supposed to be thoroughly cognizant, there are a few special points which relate to each disease in particular, and it is to these as they relate to the hygienic management of this most dreaded disease of childhood and early adult life, diphtheria, that I wish to particularly call your attention this evening. A knowledge of these facts should not be the possession of the physician alone, but should

be shared by those who daily come in contact with children in the class room.

It is hardly necessary to refer to the prime importance of a thorough knowledge of the etiology of diphtheria, of its modes of dissemination and of the circumstances which tend to favor or to hinder its transmission. These facts should be well understood, especially by those upon whom rests the responsibility of looking after the health of the school children of any community, and the demonstrations and remarks already made have dealt with this important side of the subject.

The mass of recent work in the field of experimental and preventive medicine has been rewarded by results beyond the expectation of the most sanguine and it is only necessary to point to the changes that have been brought about in the case of such diseases as typhoid fever, diphtheria, cholera, tetanus and others of the same general nature, and to note the further fact that in many the direct result has been, as is particularly well illustrated by diphtheria, a decided reduction of the death rate, to realize that we are on the threshold of an era in the history of medicine which

holds out promises of being glorious in its achievements beyond the conception of the human mind. So marvelous has already been the foreshadowing of its possibilities that one naturally hesitates before venturing to prophesy the condition of affairs which will confront us at the full noon-tide of this day.

At the foundation of all the advancement already made there rests one great fundamental principle, and it is to the promulgation of the doctrine that it embodies that we owe our present progress and by its still further enforcement we may with perfect reason hope to achieve much greater results. I refer to the doctrine that the majority of contagious and infectious diseases that we have to deal with today have their origin in filth and that when we come to that happy condition when dirt and pollution shall be things of the past we will no longer feel the necessity of combating diseases whose origin lies in unsanitary conditions.

If time permitted I should like to briefly sketch the history of a few of those diseases with which we are most familiar, and show you how it has been definitely proven that they arose from masses of accumulated human refuse material at a time when cleanliness was largely at a discount. The history of such epidemics as the Great Plague of London, or the Black Death, the various visitations of cholera, or the more recent Bubonic Plague, which is responsible for thousands upon thousands of human lives, forms a chapter which points a moral that none should fail to heed.

While we have learned much concerning the nature of the different bacterial diseases, the life history of the various pathogenic micro-organisms, the nature of their toxins and of the antitoxic substances with which their progress is combated, at the foundation of it all rests the important fact that many of the diseases in question, now known to be due to micro-organisms, and about which we are daily learning so many and such important facts, have their origin in human refuse, are in reality the direct outcome of habits of carelessness and uncleanness; which

fact having been thoroughly established, leaves but one conclusion to be drawn, namely, that in order to live in freedom from these diseases we must live under better sanitary conditions. Following the hint thus given it has been found that where cleanliness has taken the place of filth, disease has steadily diminished. The term cleanliness is of course here used in its broadest sense, meaning both the cleanliness of the person, of the habitation, clothing, air, food, drink, and, in fact, of all our surroundings.

One by one diseases have been shown to be due to micro-organisms that have found their way into the economy either through the alimentary tract, the respiratory tract, or through the ruptured surface covering of the body. The specific organisms of the various diseases have been proven to exist either in the air we breathe, or in the food, or drink of which we partake, and it has further been demonstrated beyond a peradventure, that these find their way into these necessities of life, air, food, drink, etc., because of careless habits. Take, for example, either the case of typhoid fever, or of tuberculosis. In the former, water supplies are contaminated by human refuse material, as has been clearly proven over and over again, and being taken into the system leads to the development, in a certain number of cases, of that disease which the specific micro-organism is capable of producing. In the case of tuberculosis the air we breathe becomes contaminated again by human carelessness and habits which, to say the least, are disgusting. Sputum-laden air breathed by healthy individuals results in a certain proportion of cases in pulmonary tuberculosis.

The lesson which the demonstration of these facts teaches, if taken to heart, will in the end lead to the reduction in the number of cases of typhoid fever and tuberculosis to the minimum. In fact, the knowledge of the filth origin of communicable diseases has already led to a reduction in the number of cases of many of them and to a consequent decrease in the number of deaths from the same and this good result is in very large measure

attributable to the faithful work of municipal boards of health in promulgating the doctrine of the filth origin of disease and in attempting to better the sanitary conditions of large and small communities.

Willoughby¹ states in an article written for the *American Journal of the Medical Sciences* same time ago, that the falling off of infectious diseases in England in the past few years has been directly attributable to a general improved condition as regards water supplies, sewerage, drainage, ventilation and the like, which has been brought about by the enactment and enforcement of municipal regulations bearing upon these subjects and that such diseases as typhoid fever, diarrhea and dysentery, phthisis, scarlet fever and the like, have shown a distinct diminution. In the same article he also mentions the fact that diphtheria does not seem to have shared with the others in this decrease, but that it has either seemed to stand still, or to have increased somewhat.

In attempting to explain this fact he notes that although there were statutes to prevent the spread of the disease, its continuance was probably to be attributed to the massing of children in the public, parochial and private schools.

Following this idea, Mr. S. T. Murphy, Health Officer to the London County Council, instituted a series of investigations to determine whether or not the number of cases of diphtheria reported fell off during the period of vacation, in children between the ages of 5 to 15 in a larger proportion than it did in children under and over this age, this being considered the age at which the greatest number of children attended school, and conversely, to see whether, after the reassembling of the children for another school term, the proportion of reported cases in this age-period increased in a larger proportion than did the others. The results that he obtained are of considerable interest as they demonstrate conclusively the fact that the school plays an important part in the propagation of this justly dreaded disease.

Murphy collected all the cases re-

ported to the Health Office and divided them into three classes, the first including all children under the age of five, the second all between five and fifteen, and the third all over the age of fifteen. He then further tabulated these according to whether they were reported in one of the following periods:

Period I. Four weeks of the school term preceding vacation.

Period II. Four weeks of vacation beginning a week after the schools closed.

Period III. Four weeks, beginning one week after the reassembling of the children for the second term.

I append the tables herewith.

Percentage of the number of cases in Period II, in relation to that of Period I.	(UNDER 5)	(5 TO 15)	(OVER 15)
		(1892)	
	+20	-3	-10
		(1893)	
	-8	-27	+1
Percentage of the number of cases in Period III, in relation to that of Pe- riod II.	(UNDER 5)	(5 TO 15)	(OVER 15)
		(1892)	
	-7	+29	+34
		(1893)	
	+6	+81	+33

While the results for 1893 were sufficient to indicate the accuracy of Dr. Willoughby's conclusions, those of 1893 were much more conclusive.

The result of these statistics showed, as appears from the tables, that during the second or middle period, when the children were scattered for their vacation, the number of cases of diphtheria reported to the health authorities fell off considerably, and in a much larger proportion between the ages of five to fifteen than either for younger or older children and that during the third period, or after the schools had reconvened, the proportion of cases reported between these ages increased out of proportion to the increase in the other age periods.

The part played, therefore, by the school in the propagation of diphtheria seems to be fairly well established by these studies, and though I know of no similar piece of work in this country, (time has not permitted me to make a

careful search for the same), I do not doubt but that Dr. Willoughby's results could be confirmed here.

Such being the facts in the case, it becomes of grave importance for those upon whom rests the responsibility of watching over the health of the community to institute such reforms as will tend to reduce the danger from this source to the minimum.

That the importance of this subject has been fully realized by certain of our large boards of health is evidenced by the fact that they have recently taken up the matter and are endeavoring to institute such rigid sanitary supervision of schools as has yielded most valuable results in Paris, London, Boston and some other large cities. Within a very recent date the sum of \$45,000 has been appropriated for the Board of Health of New York City with which to institute a more thorough sanitary oversight of the public, private and parochial schools of that city, not only with reference to the checking of the spread of diphtheria, but of all contagious diseases. It is proposed to appoint a number of sanitary inspectors who, I believe, are to be physicians familiar with the clinical history of contagious diseases and with diseases of the eye. To each one of these inspectors a single school will be allotted and it will be his duty to visit the same every day, inspect the general sanitary conditions, as regards ventilation, sunlight, sewerage, etc., and to receive from the teacher a list of the absentees, and of children apparently not well. It shall further be his duty to investigate every case that in any way appears suspicious, and to report the same to the chief sanitary inspector. Upon the certificate of this visiting physician only, a child away from school because of contagious disease either in his own person, or in that of some member of his family, can be readmitted. Each inspector is therefore personally responsible for the condition of the school under his care. It is hoped by this method and by enforcing all such sanitary measures as are possible to further reduce the death rate from contagious diseases five per cent.

With respect to certain specific recommendations, Dr. Henry Dwight Chapin makes the following among others :

1. That the air space in schools per scholar shall be greater than it now is, for it is found that in many schools the cubic feet of air per scholar is below that required by law for tenement house occupants.

2. That the arrangement of the ward-robes, which he now considers a source of danger, shall be made more sanitary.

3. That the use of the slate with its accompanying slate pencil and sponge be abolished. That pencils and pen holders be not transferred without disinfection.

4. That all articles belonging to children attacked with any contagious disease be destroyed.

5. That books taken home be covered once a month at least with heavy brown paper.

6. That the common drinking cup be abolished and that a pitcher of pure water be supplied, which shall be filled at least twice a day.

7. That the banisters and other articles of furniture be frequently cleaned with some antiseptic preparation.

To these it seems to me that certain other recommendations, especially referred to ventilation, the admission of sunlight and the cleaning of the floors, walls, etc., might with benefit be added.

To return again to the subject of diphtheria, there are certain facts that are of the highest interest to us as physicians and health officers, and of the greatest importance as well, with which we should all be familiar.

There has recently been reported an epidemic of diphtheria in a small village near Tarrytown-on-Hudson. In consequence of this the local health board has ordered all schools closed and church services discontinued. The disease is supposed to have been spread by a child who attended school in the early stages of diphtheria, the true nature of the disease not having been recognized.

I have cited this instance as illustrative of the necessity of prohibiting any

child attending school who suffers from any form of throat trouble about which there is the slightest doubt in the mind of the attending physician, until a bacteriological examination by a competent bacteriologist shall have proven the disease to be non-contagious, and to emphasize the necessity of bringing within the easy reach of every physician the means of procuring a bacteriological examination of all cases of suspected throat disease.

In this connection can not be too highly praised the efforts of the boards of health of this and other cities, to establish stations throughout the city where culture tubes can be procured for inoculation, and from which each day the tubes left are collected to be examined and reported on at as early a date as possible, and the further efforts of the board to instruct physicians in the simple technique of culture tube inoculation.

* Still another fact in reference to the subject before us is of decisive importance. How soon after a child has recovered from diphtheria is it safe to allow him to mingle with his school-mates? The answer to this question brings out a mass of work leading to very interesting and important results. Sévestre and Médy,² working on this problem, studied the condition of the throat, after recovery, in two series of cases, one of which had been treated with local applications, and the other by the antitoxine method. In the first series in about one-half of the cases it was found that the bacillus disappeared with the disappearance of the membrane, and where they still existed had ceased to be virulent. In the remaining 50 per cent. the bacillus of Löffler continued for some time after the subsidence of the disease. In four cases virulent organisms were found from six to fifteen days after the membrane had disappeared. In two cases cultures from the throats were negative while those from the nose developed virulent organisms. In one case the Löffler bacillus was obtained in virulent condition for forty-nine days after removal of the tracheotomy tube and thirty-eight after the

patient had left the hospital. In the second series there were in all ten cases treated by the antitoxine method. In three cases virulent cultures were obtained for a varying time after recovery, and in one case, twelve days after, a similar result was obtained.

In this connection the facts given by Dr. Welch,³ in an article published in the *American Journal of the Medical Sciences*, are of interest. Referring to the work done by Park upon the length of time that virulent diphtheria bacilli could be obtained from the throats of children cured of the disease, he gives the following figures:

In 752 cases examined the bacillus was found to have disappeared from the throat within three days after complete disappearance of the exudate in 325 cases. In 427 cases the organism lasted a varying length of time as follows:

5 to 7 days in 201 cases; 12 days in 84 cases; 15 days in 69 cases; 21 days in 57 cases; 28 days in 11 cases; 33 days in 5 cases; 63 days in 2 cases. In an extra case reported by Park the organism was obtained in virulent culture forty-nine days after recovery. Park has also reported a series of fourteen cases in which the diphtheria bacillus was recovered in an undiminished intensity of virulence at intervals varying from ten to forty-four days.

While persons well of the disease and in whose throats or nasal passages the organisms still exist in all their vigor are not apparently so liable to spread the disease as those suffering with an acute attack, they may convey it in all its deadliness and that after the lapse of an exceptionally long time, as is illustrated by a case that I will cite in a few moments. The explanation of this fact would seem to be, according to Dr. Welch, in the further fact that the organisms are present in the throats of recovered individuals in much smaller numbers.

A further point of considerable practical importance is the fact, as proven by Park, and by the work of Sévestre and Médy, previously mentioned, that irrigation and mopping of the throat with antiseptic solutions, though it will cause a

disappearance of the organisms in from one-half to two-thirds of the cases in from one to three days, leaves the virulent microbe in the throats of the remaining one-third for from one to three weeks.

As bearing on the subject under discussion from still another point of view, it has been found by Park that the Löffler bacillus can be recovered in a virulent condition from the throats of 50 per cent. of healthy people who have been more or less exposed to the disease. (These figures are from statistics made in the tenement districts. In better localities it is about 10 per cent.) The practical application of this fact is obvious, since in many instances school children attacked with diphtheria have to be housed with unattacked brothers and sisters, likewise school children, who may not contract the disease, and the question will arise at what time may these children who have escaped the disease be readmitted to the school? In all such cases the answer should depend on the results of a carefully conducted bacteriological examination of the throat, made with the same care as though the child had recovered from the disease.

In discussing this problem Park⁴ says: "All members of an infected household should be regarded with suspicion and in those cases where isolation is not enforced the healthy as well as the sick should be prevented from mingling with others until cultures, or sufficient lapse of time, give presumption that they are not carriers of contagion."

As illustrative of the danger that may exist from a person long well of diphtheria I will call your attention to an interesting case reported by Belfonti,⁵ in *Riforma Medica*, for March 23, 1894. A fatal case of diphtheria in a little girl came under his observation. From the throat of the case cultures of the Löffler bacillus and of a streptococcus were obtained. The interest in the case lies in the fact that the infection seems to have been traced to a brother who survived an attack of the disease seven months before. An examination of the brother's throat after the death of the sister showed chronic follicular tonsillitis, with indolent enlargement of the cervi-

cal glands. The exudate from the tonsils showed the presence of the same organisms, recovered from the throat of the case that had proved fatal. An extremely virulent culture of the Löffler bacillus was obtained. Three months later a second examination showed the same thing, but the diphtheria bacillus was much attenuated and gave rise only to slight local inflammation. Immunity in the case of the brother had been obtained by his previous attack.

Before bringing the subject to a close, but one further point of practical importance need be brought out and that is the possibility of the diphtheria bacillus being present in other localities than the throat or nasal passages, and especially outside the body on articles of clothing, books, the hair and the like. Without going into the work that has been done on this subject, it is only necessary to state that articles exposed in the room occupied by a diphtheria patient have been repeatedly subjected to rigid examination with the result that in very many instances the organism has been recovered in undiminished intensity of virulence from such articles as the hair, furniture, books, pictures, etc. The practical bearing of these observations is sufficiently apparent to need no further comment.

Facts such as the ones that I have endeavored to bring out in the foregoing pages emphasize very strongly the importance of the following conclusions:

1. That every case of sore throat in a child attending school should be looked upon as suspicious and treated as contagious until proved to be the contrary either by a bacteriological examination, or by the lapse of sufficient time.

2. That a child attacked with diphtheria should be immediately sent from school and isolated.

3. That the school belongings, books, etc., of the child so attacked should be destroyed.

4. That other children in the same family, or children exposed in any way to the contagion of diphtheria, should be kept from school and from mingling with other children.

5. That after recovery a repeated bac-

teriological examination should be made of the throat and nasal passages and the child not allowed to return to school until the disappearance of the Löffler bacillus is clearly shown.

6. That other children in the same family, or children in any way exposed to the contagion of the disease, should be treated in exactly the same way and not allowed to return to school until the bacteriological examination of the throat is negative.

7. That all the belongings of the sick one, books, etc., that have been exposed in the sick-room should be thoroughly disinfected, or destroyed, and that the child's hair as well as its body should be rendered as nearly germ free as possible before a return to school is permitted.

8. And that finally there should be a sanitary inspector for every school, who should be a physician and who should see to it that the above recommendations are carried out and who further should either be able to make the necessary bacteriological examinations, or have them made by the properly authorized representative of the local board of health.

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BACTERIOLOGICAL DEMONSTRATIONS OF DIPHTHERIA.

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READ BEFORE THE CONFERENCE OF HEALTH OFFICERS, HELD AT BALTIMORE, FEBRUARY 17 AND 18, 1897.

WITHIN the past few years various municipal governments have established well equipped bacteriological laboratories, where physicians may take advantage of the aid afforded by the many modern scientific diagnostic tests.

Among the most useful of these may be mentioned the bacterial test for diphtheria.

It is hardly necessary to remind you that many fibrinous, as well as other, inflammations of the throat and air passages are due to the presence of a specific germ called the diphtheria bacillus.

This bacillus may be easily recognized when present in the inflamed respiratory tract by means of a very simple method. This method is based upon the fact that when the germ of diphtheria is placed upon the slanted surface of coagulated blood serum, within a sterile test tube, a rapid reproduction of the organism takes place, even to the exclusion of other bacteria, if present.

Paper boxes containing a sterile cotton swab and tube of coagulated blood

serum are placed at various points convenient to physicians. In a case of suspected diphtheria, the cotton swab is gently rubbed over the surface of the inflamed portions of the throat and tonsils and this swab, containing the secretions of the throat, is then smeared over the surface of the blood serum. The tubes are then returned to the laboratory and placed in an incubator, maintained at the temperature of the human body (about 35° C.) and are allowed to grow for twelve hours. At the end of this time, if the bacillus of diphtheria be present, it makes its appearance on the surface of the serum as numerous yellow, small, elevated dots, or a more diffuse, homogeneous growth, consisting of many thousands of individual bacteria. These collections are called colonies.

A small portion of one of these colonies is then transferred to a glass slide, and spread over a large area by means of dilution in a drop of water. After drying, the specimen is stained by

means of an aniline stain called Löffler's methylene blue and the slide, containing the bacteria, is then ready for microscopical examination. The bacillus of diphtheria can be easily recognized if present, owing to its characteristic staining properties. This organism will only take up the stain at either end of its body, while all of the other bacteria present will stain throughout their entire extent. The diphtheria germ, therefore, stands out as a light-blue rod with dark club-shaped ends and can always be differentiated from any other bacterium present.

At times, however, in normal throats, there exists a germ called the pseudo-diphtheria bacillus. This differs from the true diphtheria bacillus in possessing pointed ends, in staining regularly and in its failure to kill Guinea pigs after inoculation. After growth for twenty-four hours it may be generally distinguished from the real organism by its failure to produce an acid in a solution of sugar in beef tea. The diphtheria germ causes the production of an acid, which can readily be discovered by simply placing a small drop of the fluid on a piece of blue litmus paper. The latter will of course turn red in the presence of the acid and remain unchanged by the fluid culture of the pseudo-diphtheria bacillus. This organism can usually be easily distinguished from its more dangerous cousin by its regular staining and pointed ends and no further experiments are necessary.

Thus, the physician is enabled to secure an accurate diagnosis twelve hours after his first visit. This is not only useful in regard to the treatment of doubtful cases, but it is also of value in affording a means of isolating cases of diphtheria until the throat is free from germs and all danger of infecting the surrounding community is over.

A number of observers have pointed out the fact that diphtheria is often spread by means of the convalescent. The germs of this disease often remain in the throat for several weeks after all signs of the disease have disappeared. These bacteria are often virulent, even after so long an existence in the healing

tissues, and are capable of causing the death of a Guinea pig. Individuals possessing such dangerous organisms can easily infect other persons either through the practice of kissing, or by means of the various irresponsible acts of children. The practice of transferring candy, slate pencils, etc., from one mouth to another may also introduce diphtheria bacilli from the mouth of a convalescent to that of a healthy child. Diphtheria, therefore, in most cases, must be caused by the actual transference of the bacillus from one throat to another, often by means of some intermediate infected agent. These, and many other possibilities of infection, render it absolutely necessary that several careful bacteriological examinations should end in negative results, before the patient is allowed to mingle with the public.

At times, simple inflamed throats, or even typical attacks of follicular tonsillitis, are due to the diphtheria bacillus and these conditions can only be accurately diagnosed by means of the microscope.

One of the most characteristic results of the presence of the bacillus of diphtheria in the respiratory tract is the formation of a grayish membrane. This may merely be present on the tonsils, or it may involve the entire tract and even cause death by suffocation from narrowing the lumen of the trachea, or wind-pipe.

This membrane consists of fine interlacing threads of a material called fibrin including within its meshes many pus cells and numerous diphtheria bacilli. The latter not only bring about local changes, but they form a powerful poison at this area of local inflammation which is absorbed and carried into the circulation. This poison or toxine is the most frequent cause of death in neglected diphtheria.

Fortunately, in antitoxine we possess a most valuable method of counteracting the effects of this poison and a few words in regard to its manufacture may not be ill-timed.

The production of a toxine or poison by the diphtheria bacillus has been

mentioned. This toxine is secured in a concentrated form by means of the following procedure :

Large flasks of sterile beef tea are inoculated with a pure culture of the diphtheria germ and this fluid is allowed to remain undisturbed for from ten to thirty days. By this time a large deposit has taken place in the fluid consisting of myriads of bacteria. This fluid is then filtered through unglazed porcelain and the clear filtrate is found to contain a very powerful poison in solution, capable of causing the death of Guinea pigs in very small doses. About 0.015 of one cubic centimeter would kill a Guinea pig weighing 300 grammes. Roughly speaking, about 3 cubic centimeters, or 45 drops, would kill a man weighing 70 kilogrammes, or 140 pounds.

This fluid is now injected into the tissues of a healthy horse, beginning with doses as small as 0.5 of one cubic centimeter. This dose is gradually increased until in about 80 days the animal can stand as large a dose as 250 cubic centimeters, or about one-fourth of a quart. The animal is then immune, or incapable of contracting diphtheria, and the blood serum of such an animal is capable of protecting other animals against the poison of diphtheria even after the disease has become established. This blood serum forms the clinical

remedy known as antitoxine and is merely made by withdrawing the blood of the horse from the jugular vein and allowing the serum to separate from the clot. This fluid is then put into small bottles and with the addition of some antiseptic is marketed as a cure for diphtheria. A visit to any laboratory will show that these experiments are performed without causing any greater pain to the horse than that of a needle puncture.

The results of this remedy, as used by hypodermic injection, have been most gratifying and numerous tables can be cited to show the great reduction in the mortality from diphtheria which has followed its use.

The American Pediatric Society has lately published a report upon 3384 cases of diphtheria treated with antitoxine in which the mortality was only 13 per cent. The New York Health Board statistics show a mortality of 17 per cent., while Chicago only gives 6.4 per cent. Welch's tables give a mortality of about 17 per cent. in 7000 cases. These figures, as compared to a mortality of about 50 per cent. previous to the use of antitoxine, are very striking.

Let us close with a quotation from Welch's article. He says: "Anti-diphtheritic serum is a specific curative agent for diphtheria and it is the duty of the physician to use it."

TUBERCULOSIS TREATED BY THE SALTS OF THE BLOOD.

STADELMANN has suggested in the *Therapeutic Gazette* that in a certain number of cases of tuberculosis there is a decrease in the normal saline constituents of the body and he therefore suggests that it will be of advantage to give to patients suffering from this disease an increased quantity of saline material. Thus, he recommends that the phosphate of sodium shall be given in the dose of thirty grains three times a day and that subcutaneous injections of six to seven grains of chloride of sodium be used. He asserts that after the treatment there is decrease in expectoration and the objective signs of disease.

SALIVATION A SYMPTOM OF MOLLITIES.

BRAUN (*British Medical Journal*) publishes notes of a multipara who, after being laid up for three months with acute rheumatism, recovered and bore four children. All four pregnancies and labors were normal. Seven years after the fourth, and when apparently in perfect health, she became pregnant again. During the first three months she suffered from profuse salivation. Rapid changes in the pelvis ensued and Porro's operation was necessary; the mother and the child were saved. Braun was struck by the absence of any premonitory symptom besides the ptyalism.

CLINICAL AND BACTERIOLOGICAL DIAGNOSIS OF DIPHTHERIA.

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REMARKS MADE AT THE CONFERENCE OF HEALTH OFFICERS HELD AT BALTIMORE, FEBRUARY 17 AND 18, 1897.

As I WAS unable to be present at the morning session, I will take advantage of this opportunity to express my conviction of the great significance of this Conference. It inaugurates an important movement in the interests of public health in this State. By bringing together persons from various professions and walks of life, it will spread an intelligent interest in sanitary matters; it will lead to the education of the general public as to the importance of public hygiene and it should secure co-operation on the part of the great body of physicians with the efforts of municipal and State Boards of Health. There should result an educated public sentiment to support well-directed efforts of the officers of public health, to demand new sanitary legislation when needed and adequate means to carry out sanitary regulations and to aid in the solution of sanitary problems. The success of this first conference will, I trust, lead to a permanent organization with similar purposes and widened scope, an organization capable of being of material assistance to the various Boards of Health throughout this State.

To turn to the theme which has been assigned to me on this occasion, I must express a certain feeling of hesitation in talking before a mixed audience about the harmful bacteria. A half knowledge concerning the living germs of disease is calculated to give rise to exaggerated and alarming apprehensions which a fuller knowledge of the subject would correct. The general public entertains sentiments of great animosity toward all those members of the vegetable kingdom which are called "bacteria." They hear only of those bacteria which cause disease and little or nothing of the vastly greater number of bacterial species which are not at all harmful and many of which, indeed, are of

the utmost service to mankind. The very existence and continuance of life upon this globe are dependent upon the activities of these lowly and much abused organisms. One might, with equal justice, cherish hostile feelings towards all of the higher plants because among them are a few poisonous species. The friendly bacteria have not received their deserts in public estimation. The mere statement that water, or milk, or various substances with which we come into contact, contain so many bacteria is of very little significance. It all depends upon whether harmful bacteria are present and, fortunately, such bacteria are the exception and not the rule. Again, in this preface to what I have to say, I would call to your minds that we are fortunately provided by nature with admirable and manifold means of defence against the invasion and injurious action of even most of the harmful bacteria which we may chance to receive.

Dr. Stokes has already described to you the general characters of the diphtheria bacillus. He has demonstrated how it can be recognized and what use is made of it in the diagnosis of diphtheria, as well as many of the practical applications of this discovery. There is no longer any doubt in the minds of those who are fully informed upon the subject that the Klebs-Löffler or diphtheria bacillus is the sole specific cause of diphtheria. Every inflammation of a mucous membrane or other exposed surface that is caused by this bacillus is diphtheria, and any inflammation that is not caused by this bacillus is not diphtheria. But the mere demonstration that this organism is the cause of diphtheria simply confirms the faith of enlightened physicians that all infectious diseases are caused by micro-organisms. The practitioner of medicine has the right to inquire what practical

results have come from the discovery and to this inquiry it may be replied that there is perhaps no single bacterial discovery which has lead to such important practical results as has that of the diphtheria bacillus. This discovery has shed light upon the causation and mode of spread of diphtheria; it has elucidated the real nature of the disease; it has furnished a positive means of recognizing the disease and distinguishing it from other affections, and, above all, it has led to a method of treatment far surpassing in efficacy all other known methods. Those who demand immediate practical results from scientific discoveries ought surely to be satisfied with the outcome in this respect from the discovery of the bacillus of diphtheria.

The old discussion as to whether diphtheria is a local or a general disease has lost all significance in the light of the discovery of the bacillus of diphtheria and the study of its properties. One of the most important attributes of this bacillus is its power to produce a chemical poison of appalling potency. This poison may be compared in a general way and as to some of its properties to the poison secreted by a venomous serpent. In diphtheria the bacillus itself grows only or chiefly at the point of invasion, which is usually the throat, and in its neighborhood, where it leads to inflammation, generally with the formation of a false membrane. Here, growing only superficially in the membrane, the bacilli secrete their terrible poison or toxine, which is absorbed into the circulation and causes the grave constitutional symptoms of the disease and serious damage to remote parts, such as the heart and the kidneys. The local lesion, the false membrane, is caused directly by the bacilli; the general symptoms and distant lesions are the result of the action of the specific poison.

The subject of serum therapy or the treatment of diphtheria by antitoxine does not belong to my theme and I shall only say in this connection that the efficacy of this treatment has passed beyond the experimental stage and is

settled beyond all doubt. Antitoxine, where generally employed, has reduced the fatality from diphtheria at least fifty per cent. Thousands of lives have already been saved by its use and countless thousands will be saved in the future by a discovery resting entirely upon the results of experimentation upon animals.

The diphtheria bacillus affords a positive and practically unfailing means of diagnosis of the disease diphtheria and it is more particularly to this aspect of the subject that I have been requested, in the division of the general theme, to direct your attention. The possibility of this accurate diagnosis signifies much for the practitioner and for the patient.

Before the discovery of the bacillus of diphtheria the disease was diagnosed by certain symptoms and lesions, the most characteristic feature being the presence of a false membrane. This constitutes the clinical diagnosis of diphtheria and it still remains the most available method of diagnosis for the great body of medical practitioners. The bacteriological diagnosis of diphtheria is not to be regarded as intended to supplant the clinical diagnosis or in any sense as antagonistic to the clinical method. It is simply a valuable additional aid in diagnosis, in many cases simply confirmatory of a diagnosis reasonably certain upon purely clinical grounds, and in doubtful cases of decisive importance. For the scientific study of many problems relating to diphtheria bacteriological diagnoses of all cases studied are essential.

The question is of much practical importance whether the diagnosis of diphtheria by bacteriological methods necessitates any material readjustment of the views which had been reached by the anatomical and clinical study of the disease. In my opinion no such readjustment of these views is required as would appear from some of the writings upon this subject. Our experience here in Baltimore has been that over 90 per cent. of the primary pseudo-membranous inflammations of the throat, which the physician upon clinical grounds alone would confidently diagnose as

diphtheria, are in fact genuine diphtheria capable of demonstration as such by the detection of the Klebs-Löffler bacillus. Statements, based upon the examination of large series of suspected cases of diphtheria, to the effect that not more than 60 to 75 per cent. of the cases are genuine bacillar diphtheria, are in a measure misleading and it is not to be understood that all of these suspected cases relate to primary, pseudo-membranous inflammations about the nature of which the practitioner would not be in doubt upon clinical grounds. It sometimes requires repeated, painstaking examination to detect the diphtheria bacilli in diphtheric exudates, although, as a rule, they can be found without much difficulty. So far, then, as these primary pseudo-membranous inflammations of the throat are concerned, no important readjustment of diagnosis is required as the result of bacteriological studies. Not a few, however, of the pseudo-membranous inflammations of the throat secondary to scarlet fever and other acute infections are due to other organisms than the Löffler bacillus and are, therefore, not true diphtheria. The primary membranous croups are nearly all diphtheria.

But it is in the doubtful cases, and more particularly in the milder inflammations of the throat with little or no false membrane, that the bacteriological diagnosis is of prime service. Here the clinical diagnosis alone is generally not decisive. Some have been very reluctant to include these mild cases under diphtheria, but the conception that diphtheria may manifest itself in the form of mild, non-membranous, inflammations was not introduced by the bacteriologists. There were not a few excellent clinicians who advocated this doctrine long before the bacteriological era. One sometimes hears today the statement that bacteriologists demand that every throat harboring the Löffler bacillus should be regarded as affected with diphtheria. Such a view is as ridiculous as to consider the presence of the streptococcus upon the healthy skin as indicative of erysipelas. The bacillus must not only be present but it

must be doing harm by unfolding its pathogenic activities, that is by setting up inflammation. The whole point, however, is that this inflammation may be mild, without membrane, as well as severe, necrotic, with membrane, and the mild, non-membranous inflammations are just as truly diphtheria as are the membranous types. The presence of diphtheria bacilli in healthy throats, which have not recently been the seat of diphtheria or which do not subsequently become diphtheric, is a rare occurrence. The recognition of the mild cases of diphtheria, which can be positively diagnosed only by bacteriological examination, is of no little practical importance, for such mild cases may become severe and they are capable of spreading the disease to others, even in malignant form.

The physician will do well during periods of prevalence of diphtheria to consider all sore throats in children, certainly all in households where undoubted diphtheria exists, as suspicious of diphtheria. The explanation of the relative mildness of the inflammation in some cases of infection with the diphtheria bacillus may sometimes be the weakened virulence of the infecting bacillus, but it is more frequently attributable to more than usual resistance on the part of the individual to this organism.

As the chairman of this meeting has alluded to the prevalent belief that cats may acquire diphtheria and be the means of transmitting it to human beings, I may be permitted to touch upon this point, although it is not strictly relevant to my theme. Noah Webster, in his curious book on "Epidemic and Pestilential Diseases," published at the end of the last century, noted the coincidence of cat distempers with malignant sore throat. More recently Klein has brought together the evidence on this point and thinks that observations which he has made support the popular belief, but his observations do not seem to me convincing. In an address before the Medical and Chirurgical Faculty of this State about five years ago, I referred to this matter and expressed a desire to make bacteriological examina-

tions of cats suspected to have diphtheria or to be agents of conveyance of the disease, but no opportunity for such examination has presented itself. In my judgment there is no conclusive evidence that cats are ever spontaneously infected with the diphtheria bacillus, although they are susceptible to experimental inoculation with it.

It is not to be expected that the practitioner of medicine, as a rule, will himself make bacteriological examinations in cases of suspected diphtheria. Relatively few have either the training or the appliances for such examinations, even if they have the time. Students who are now educated in our best medical schools are taught bacteriological methods and in their future practices should be able to make such examinations as those required for the bacteriological diagnosis of diphtheria. From what has been said, the clinical diagnosis in many cases is sufficiently positive for all practical purposes. The physician should not delay the use of antitoxine in suspected cases of diphtheria in order to await the results of bacteriological examination. There remain, however, a sufficient number of cases where it is of the utmost importance that means should be at the disposal of the physician through which he can secure the advantages of

bacteriological examinations by skilled experts. Nor is it simply for purposes of diagnosis that such examinations may be required.

I would, therefore, in conclusion, emphasize the great value to the medical profession and to the interests of public health of the establishment of well equipped and properly directed bacteriological laboratories in connection with the municipal and State Boards of Health.

A model in this respect is the laboratory of the Health Department of New York City, which has already accomplished results demonstrating the great benefits to the medical profession and the general public of such laboratories. The impulse for the establishment of this laboratory was the cholera scare a few years ago. The fear of Asiatic cholera has been one of the great levers of sanitary reform in this century. Here in Baltimore a bacteriological laboratory has been started in connection with the Health Department. It should receive the hearty support of the medical profession and its capacity for usefulness should be extended by ampler provisions for its support, whereby it may be made more serviceable not only to this city but to the entire State.

TOTAL HYSTERECTOMY AT TERM: CONTRACTED PELVIS.

PINARD and Segond (*British Medical Journal*) treated a pregnant woman who was much deformed. There was scolio-kypnosis and asymmetrical pelvis; the anterior and posterior bony boundaries on the right side almost touched. It was agreed to let pregnancy go on to term and then to remove the uterus. On December 16, 1896, the operation was performed directly pains set in, term having been reached. A very free abdominal incision was made; then the uterus was pulled out and immediately afterwards the upper part of the wound was closed by forceps applied to its edges so as to prevent prolapse of intestine. The elastic ligature was applied and the child extracted; it weighed

eight pounds and was living and strong. Then the placenta was extracted. Pressure forceps were applied to the edges of the wound in the uterus and that organ was then amputated, with its appendages, after the American method—that is, by a continuous incision from left to right. On January 19, the patient was quite well.

* * *

CYCLING, CORPULENCE AND LEANNESS.

CYCLING, says the *Medical Times*, sometimes has the effect of reducing the weight of the fleshy person and increasing that of the thin one. This may be explained by Murchison's observation that leanness, as well as corpulence, is often caused by liver inaction.

Society Reports.

CONFERENCE OF HEALTH OFFICERS OF THE STATE OF MARYLAND.

HALL OF THE MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND.

HELD FEBRUARY 17 AND 18, 1897.

FIRST DAY, WEDNESDAY, FEBRUARY 17.
NIGHT SESSION.

HON. H. M. CLABAUGH, Attorney General of Maryland, opened the evening session with some brief remarks.

Dr. Wm. Royal Stokes of Baltimore then read a paper on "Bacteriological Demonstration of Diphtheria." (See page 389.)

Dr. Wm. H. Welch of Baltimore made some remarks on "Clinical and Bacteriological Diagnosis of Diphtheria." (See page 392.)

Dr. John D. Blake of Baltimore then read a paper entitled "Personal and Domestic Prophylaxis." (See page 369.)

Dr. Delano Ames of Baltimore read a paper entitled "Medical Inspection of Schools for the Prevention of Diphtheria." (See page 384.)

Dr. W. F. Elgin of Bethesda read a paper entitled "Necessary Legislation to Prevent the Spread of Contagious Diseases in Country Districts."

Dr. John S. Fulton, Baltimore, made some remarks on the "Illustrations of the Relation of Schools to Diphtheria and of the Results of Isolation and Disinfection," as follows: I want to undertake the somewhat ungracious task of demonstrating that the schools are the most important link in the chain of causes propagating diphtheria. I want to make a distinction, however, between that part of the programme which you have heard and that you hear from me.

Dr. Stokes has shown you enough bottled poison to destroy this town. You have handled it with impunity. He has told you how to use and what can be done with it. Other gentlemen have told you how to treat the disease, how to purify the clothing and the schools. Do you believe them? I trust

there is not here any representative of that weak generation who seeketh for a sign. They will not hear either Moses nor the Prophets, nor would they hear one who arose from the dead.

Now I have some charts strung along the wall here and I want you to see what sort of a story they tell of diphtheria. This is a chart representing the curve of two diseases of scarlet fever and diphtheria. Every two of these transverse lines mark a period of two months. July and August are the vacation months in this country. These figures (pointing) represent the prevalence of diphtheria in the State of Michigan during the period stated. (Showing charts of other States.) Now I want you to observe that in each of the vacation periods there is invariably a falling line. You will also find in the majority of periods following vacation there is a rising line. Now a general result of the study from a number of States show the same thing. I have added the bi-monthly period together and get this sort of a chart (exhibiting chart). Every vacation curve is a falling line except in the case of Pennsylvania and I will show later why that is so. The bi-monthly period immediately succeeding the vacation period has a rising line. There is no exception to that rule. The vacation period here is represented by the red line in the middle and beginning with the District of Columbia there were for five years 339 deaths, California 1318 deaths, Ohio 8661; St. Louis 2574; Baltimore 4130; Michigan for sixteen years 9380; and Pennsylvania presents the most eccentric curve of all; 4701 deaths in twenty-seven years. This last is unreasonable and that set of statistics is condemned. Michigan presents a typical curve.

This sharply rising line immediately after vacation period, to which all testify alike, and the sharply falling line, except in one State, whose statistics are contradictory, show the part that schools play in the dissemination of the disease. Now compare the curve of diphtheria with that of some other disease. Diphtheria is a cold weather dis-

ease. Pneumonia has a ratio of about 1.06 for each degree of rise or fall of temperature. Given, for instance, the average temperature of Michigan for January or February, make the subtraction and multiply by 1.06 and you get the probable morbidity for March. The composite curve for the two diseases runs almost parallel. There is very slight difference of mortality between the two diseases. They both slay people at about the same rate. The pneumonia curve is two months or more later than the diphtheria curve, the rise not occurring until about December, so that all this space (pointing) of rise in diphtheria after vacation period is, I think, due to the schools.

Correspondence.

CHEST EXPANSION AND PHTHISIS.

Editor MARYLAND MEDICAL JOURNAL.

Dear Sir:—As there is evidence tending to prove the theory that all persons predisposed by heredity to consumption have a respiratory capacity or action insufficient for good, vigorous health, probably a proportionately small chest with insufficiency of lung membrane, that the predisposition is mainly or primarily due to this cause; in other words, that the insufficient respiratory function is the special primary feature of the predisposition (a condition which may be, practically, acquired by habit, occupation, etc.), I desire the coöperation of the profession in an endeavor to help to establish, by means of collective investigations, the correctness, or otherwise, of this theory.

In this behalf I hereby ask all physicians who have patients predisposed to, or in the early stage of, consumption, to send to me on a postal card (will suffice), the information below indicated. As soon as I can study and collate the replies I shall make the results known to the profession.

Give (1) name (or initials); (2) sex; (3) age; (4) occupation; (5) height; (6) weight (average when in usual state of health); (7) circumference of the chest

on a level with sixth costo-sternal articulation when momentarily at rest after an ordinary expiration and also (8) after habitual natural expansion or inspiration (which last (8) usually exceeds the first measurement, expiration (7), by an increase of only about one-fourth of an inch); finally (9), the circumference after a forced expiration and also (10) after a forced inspiration (these two measurements, 9 and 10, varying or showing a range of from $1\frac{1}{2}$ to 4 inches). The patient should of course be as calm as possible and had better, usually, practice the forced breathing for a few acts before these two last measurements, 9 and 10, are taken.

To be of value all four measurements should be taken as carefully, accurately and free from haste as possible.

Any further information, in brief, as to degree of heredity (family history) in cases, prominent symptoms—loss in weight, cough, dulness on percussion, etc., or any remarks, will be a decided advantage.

Measurements of two cases, or several, or the average, could be given on one card.

With the hope that many will comply with the above request and with much respect for and interest in the profession, I am,

Yours truly,

EDWARD PLAYTER, M. D.
Ottawa, Ontario.

Medical Progress.

PERCUSSION OF THE SPINE.—Bechterew (*British Medical Journal*) points out the diagnostic value of percussion of the lower part of the spine. In the sacral region over a triangular area with its base at the upper level of the sacrum and its apex at the tip of the coccyx there is normally a slightly tympanitic note. In cases where there is some morbid change, as in a case where the cauda equina was compressed by a fungoid tumor, the percussion note was definitely altered. Localization of a lesion may thus be facilitated; in the case mentioned the localization was proved post-mortem to be correct.

MARYLAND Medical Journal.

PUBLISHED WEEKLY.

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MARYLAND MEDICAL JOURNAL,

209 Park Ave., Baltimore, Md.

WASHINGTON OFFICE:

913 F Street, N. W.

BALTIMORE, MARCH 13, 1897.

THE large number of hospitals and dispensaries in Baltimore has not only been a menace to the practice of *Hospital Appropriations*. the average physician, but has been a drain on the pockets of the tax payer.

The question that is now exciting those most interested in the welfare of Baltimore is how retrenchment can be made with the least injury to the needs of the city and here, among other items on the tax list, the item "city poor" receives attention. The city has heretofore been very liberal in appropriating money to each and every institution without sufficiently inquiring into its ability to render an equivalent in return.

It was reported that one hospital was in such an insanitary condition that it was tacitly agreed by the proper authorities to send no more patients there. Others had at times great trouble in keeping their free beds filled and it has even been hinted in some cases that the city beds were temporarily filled by obliging attendants or patients during a visit of inspection.

For every two dollars paid as taxes to the

city of Baltimore in 1896, 11 cents went to the city poor; therefore this great charity is after all from the pockets of the people, and, for example, a wealthy physician who gives free services to an institution and perhaps a donation as well, and who also pays taxes, directly or indirectly gives to the same institution threefold. If the hospital and dispensary appropriation were more carefully regulated and the results of the work more thoroughly inspected, perhaps the great question of hospital and dispensary abuse would receive a more substantial support.

In the past year the finances of the city of Baltimore have been managed more nearly on a strictly business basis than for many years before and perhaps than ever before. The hospitals and dispensaries usually ask for much more than they want, knowing full well that the appropriations will be scaled down to what they ought to be.

If the reports of most hospitals and dispensaries be examined, the number of cases treated will be seen to be greater each year and this enormous increase is proportionately much greater than the increase of population. The managers of a hospital or dispensary do not care to report a decrease in the number of cases treated and yet this increase cannot go on from year to year without infringing on the rights of private physicians.

If the City Council of Baltimore does cut down the hospital and dispensary appropriations for 1897 it will certainly help to regulate more justly the abuse which has hitherto been so blatant and which persons in all cities are trying to check. While it would be a great hardship to deprive the worthy poor of medical treatment, still any step which would keep those able to pay from sponging on the city and private institutions should be hailed with delight by those unselfishly interested in the practice of medicine in Baltimore.

THE safety with which exploratory incisions can be performed and the freedom from danger involved in *Renipuncture in* antiseptic surgery have *Albuminuria.* brought some diseases formerly considered strictly medical under the surgeon's charge.

Reginald Harrison relates in the *Medical Record* several cases in which an operation for supposed renal calculi had resulted in the

disappearance of an existing albuminuria, and he justly inferred that operative procedures might help some forms of albuminuria. In these cases he found the capsule of the kidney tense, like the surface of a ripe plum.

Accordingly, he made several incisions into the kidney and thus reduced the tension, with the satisfaction of seeing the wound gradually heal with no return of the albuminuria. His cases were all albuminurics but they were not operated on for the relief of that trouble, but for some other diseased condition.

That this form of treatment is right, analogy will show. The eye is a delicate and sensitive organ which may become glaucomatous from intra-ocular tension; the testicle not infrequently becomes inflamed and tense, thus involving the functioning of that organ. In both these organs incision to reduce the tension is the proper treatment which gives the best hopes for a cure. The structural arrangements of the kidney are such that an incision for increased tension would be the most natural operation and it is indicated in a large number of cases.

* * *

THE work of the late sanitary conference held in Baltimore last month is shown nowhere so brilliantly as in the *Diphtheria* papers and discussions devoted to diphtheria and the reports published in this issue are of especial value.

Dr. Stokes, who has charge of the municipal bacteriological laboratory, describes very clearly the methods used in helping physicians to diagnose their uncertain cases of throat trouble and he shows how the health department has left nothing undone to give assistance cheerfully and promptly.

Dr. Welch draws a picture of the clinical and pathological aspects of diphtheria and also speaks of the strides made in the treatment of this disease in a short time and the wonderfully practical results in such a little while from laboratory work.

Dr. Delano Ames sets forth at length the necessity of careful school inspection and shows how easily disease may be spread in schools. The subject of diphtheria will never cease to be instructive and when a treatment reduces the mortality from fifty to seventeen per cent. the most skeptical must feel that the study of bacteria has something practical in it after all.

Reforms are made slowly and many obstacles are in the way but the work of what is now the Maryland Public Health Association supported by the State Faculty and the State Board of Health will in a few years show itself in the lowered mortality rate of the State and in a more universal intelligence on the part of the people as to cleanliness and disease prevention. Work begun in this way will not go on of itself and every member should do his part.

* * *

THE frequent use of the x rays on the same person has brought to light the fact that a serious skin affection can *x Ray Dermatitis*. and does follow their use when the same surface is exposed rather constantly and with little chance for rest. It is astonishing, considering the short time these ray machines have been in use, how much literature on x ray dermatitis has been collected.

Dr. T. C. Gilchrist has reported a case with very exact illustrations in the *Bulletin of the Johns Hopkins Hospital*. He saw the case in a young man who was exhibiting one of these machines at various medical societies and other places. In the first place, there is a peculiar redness or erythema, then a swelling of the derma, and finally a deep discoloration of the skin until it becomes quite dark. Vesiculation and serious eruption may follow renewed use of the machine before the cure is complete.

In Dr. Gilchrist's case there was first hyperemia, then edema but no skin pain. There was a certain amount of throbbing, aching and shooting bone pains. These pains are due to thickening of the bones of the hand. As this dermatitis does not occur to every x ray operator, it is not of such frequent occurrence and when it does happen it is found that rest and freedom from work with the machine is of course one of the best methods of treatment.

It is probable that the cathode rays are electrically charged and carry into the skin minute bits of platinum, which may lead to the formation of ulcers which are very intractable. It is very likely that the tingling experienced by some when exposed for a long period to the influence of the x rays is due to the strong electrical effects in the light. The fact that a few are badly affected by the x rays should not deter one from their use.

Medical Items.

We are indebted to the Health Department of Baltimore for the following statement of cases and deaths reported for the week ending March 6, 1897.

Diseases.	Cases Reported	Deaths.
Smallpox.....		
Pneumonia.....		22
Phthisis Pulmonalis.....		30
Measles.....	5	
Whooping Cough.....	2	
Pseudo-membranous Croup and Diphtheria. }	18	7
Mumps.....	4	
Scarlet fever.....	24	2
Varioloid.....		
Varicella.....	2	
Typhoid fever.....	5	

Dr. George Frederick Child, a retired English physician, died recently in Baltimore, aged 86.

Dr. H. K. Pusey, a prominent physician of Gurnellsville, Kentucky, died at his home, aged 69.

The Tri-State Medical Society of Iowa, Illinois and Missouri will meet in St. Louis, April 6, 7 and 8, 1897.

Dr. George J. Preston is just completing his book on "Hysteria and Allied Affections." It will be published by the Blakistons.

New York has less than 400 miles of paved streets, of which 16 miles are swept from three to four times a day; over 200 miles twice a day; and the rest once a day. This costs \$3,000,000 a year and it is worth it.

Dr. John N. Mackenzie of Baltimore has been made Corresponding Fellow of the British Laryngological, Rhinological and Otolological Association. Dr. Mackenzie is also a Corresponding Member of the Société Française d' Otologie et de Laryngologie.

The American Pediatric Society will hold its ninth annual meeting at Washington, May 4, 5 and 6, 1897. Among others, Dr. Wm. Osler will read a paper entitled "Adherent Pericardium in Children" and Dr. W. F. Lockwood will report a case of Varicella Gangrenosa.

At the March meeting of the Medico-Legal Society to be held March 17, 1897, in New York, Dr. William Lee Howard of Baltimore will read a paper entitled "Demon Possession—Does it exist in China? A Psychologist's Review of a Theologian's Work."

The Conrad Sanitarium Company of Baltimore, a corporation for hospital and asylum purposes, and particularly for the treatment of mental and nervous diseases, has been incorporated by Drs. J. Heath Dodge of Montgomery County; George H. Rohé of Carroll County; Martin W. Goldsborough and J. Miller Kenyon of Baltimore County and Mr. J. H. Preston of Baltimore City, with a capital stock of \$2500.

The *Medical Century*, as quoted in the *Southern Journal of Homeopathy*, is authority for the statement that the late Enoch Pratt had intended building a new homeopathic hospital in Baltimore on a grand scale to rival the Johns Hopkins Hospital, but to be built on more modern architectural lines. On account, however, of contentions, wrangling and ill-will among the homeopathic physicians, Mr. Pratt abandoned the idea and gave a large sum to the Sheppard Asylum.

The monthly report of the Health Department of Baltimore for February shows the following: Number of inspections made, 635; total number of contagious diseases reported, 218; number of places disinfected, 92; number of meat inspections, 574; number of bakeries inspected, 98; sweat shops inspected, 8. The report also shows that during the month 333 mattresses from incoming ships were destroyed. The vaccine physician reported 2940 calls during the month and 991 vaccinations.

The Hebrew Hospital of Baltimore will undergo a transforming next week. The entire building will be repainted and remodeled. A new steam laundry will be built on the west side of the building, twenty-five feet long by fifty wide and two stories in height. A disinfectant plant will also be erected. A dispensary will be fitted up in the basement of the hospital proper, and equipped with every modern appliance. The top floor will be partitioned off and used for the accommodation of patients. The hospital is at present very much cramped for space. These improvements will cost about \$10,000, and will be completed early in the summer.

Book Reviews.

INDEX-CATALOGUE OF THE LIBRARY OF THE SURGEON GENERAL'S OFFICE, UNITED STATES ARMY. Authors and Subjects. Second series, Vol. I. A—Azzurri. Washington : Government Printing Office. 1896.

This volume contains 6346 authors' titles, representing 6127 volumes and 6327 pamphlets. It also contains 7384 subject-titles of separate books and pamphlets and 30,384 titles of articles of periodicals. In spite of the meager support given by the Government to this division of the War Department, the work is no less thorough. It must be a great satisfaction to the compiler of this enormous work to know that it has no superior in any language in any country.

POST-MORTEM EXAMINATIONS IN MEDICO-LEGAL AND ORDINARY CASES; With special chapters on the Legal Aspect of Post-Mortem and on Certificate of Death. By J. Jackson Clarke, M. B. (Lond.), F. R. C. S., Assistant Surgeon to the Northwest London Hospital, etc. London, New York and Bombay. Langmans, Green & Co. 1896.

The object of this little work, which is a very good repetition of a familiar subject, is to instruct medical men in the legal aspects of post-mortem and on kindred matters connected with medico-legal cases. The author also gives a very simple system of antiseptic precautions. The book is of a convenient size and contains nothing superfluous.

WM. R. WARNER & Co. announce a Pocket Medical Dictionary of Today. Concise and comprehensive. Price 75 cents.

REPRINTS, ETC., RECEIVED.

The Want of College Instruction in Electro-Therapeutics. By Robert Newman, M. D. Reprint from the *Electrical Journal*.

The Antitoxine Treatment of Diphtheria. By H. Detwiler, M. D. Williamsport, Pa. Reprint from the *Therapeutic Gazette*.

Report of the Special Committee of the Medical Association of the District of Columbia on the "Hospital and Dispensary Abuse in the City of Washington."

Notes on Some of the Newer Remedies used in Diseases of the Skin. By L. Duncan Bulkley, A. M., M. D. New York. Reprint from the *Journal of the American Medical Association*.

Current Editorial Comment.**SUICIDE.**

Medical and Surgical Reporter.

IN our own opinion, the ethics of suicide depends wholly on religious belief. If we considered the human being simply a body moved in various ways by the secretion or chemical activity of certain nervous cells, we should consider the stoppage of this secretion or chemical activity as perfectly justifiable, even if other bodies similarly actuated by material processes would manifest peculiar phenomena which the uninstructed call grief, at the cessation of the cerebral secretion in others.

ABORTION MONGERS.

Southern California Practitioner.

SHOULD a man or an agency advertise that for a consideration he or it was willing to assassinate anybody who might be antagonistic to his or its patrons, in all probability the law would speedily interfere and put an end to such premium on murder and would probably provide the advertiser with board, lodging and employment for a term of years, yet the law looks on with a tolerable and tolerating indifference at the disgusting and criminal advertisements offering to restore female irregularities, a term which in plain terms means nothing but criminal abortion, and unfortunately too many papers can be found willing for the revenue thereby produced to print and publish such notices.

BOOK REVIEWS.

The Journal.

A DIFFICULTY from the editorial standpoint is the necessity of committing volumes consigned to the large journals for review to other hands. Although editorially responsible for the review columns of his journal, for many obvious reasons the editor can not personally inspect the books sent to him. Generally the volume is presented to the reviewer, and when a severely critical or objectionable review is returned the editor is often compelled to expurgate or publish in full the passages in question without being able to consult a duplicate. This is manifestly unfair to both author and reader and is an injustice to the honest labor of the reviewer. It would be better for all concerned if the publishers would adopt the French custom of sending two copies of the volumes for review, one copy to be used for critical inspection and one for editorial reference.

Publishers' Department.**Society Meetings.****BALTIMORE.**

BALTIMORE MEDICAL ASSOCIATION, 847 N. Eutaw St. Meets 2d and 4th Mondays of each month.

BOOK AND JOURNAL CLUB OF THE FACULTY. Meets 2d and 4th Wednesdays, 8 P. M.

CLINICAL SOCIETY, 847 N. Eutaw St. Meets 1st and 3d Fridays—October to June—8.30 P. M. S. K. MERRICK, M. D., President. H. O. REIK, M. D., Secretary.

GYNECOLOGICAL AND OBSTETRICAL SOCIETY OF BALTIMORE, 847 N. Eutaw St. Meets 2d Tuesday of each month—October to May (inclusive)—8.30 P. M. WILMER BRINTON, M. D., President. W. W. RUSSELL, M. D., Secretary.

MEDICAL AND SURGICAL SOCIETY OF BALTIMORE, 847 N. Eutaw St. Meets 2d and 4th Thursdays of each month—October to June—8.30 P. M. J. B. SCHWATKA, M. D., President. S. T. ROEDER, M. D., Corresponding Secretary.

MEDICAL JOURNAL CLUB. Every other Saturday, 8 P. M. 847 N. Eutaw St.

THE JOHNS HOPKINS HOSPITAL HISTORICAL CLUB. Meets 2d Mondays of each month at 8 P. M.

THE JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY. Meets 1st and 3d Mondays, 8 P. M.

THE JOHNS HOPKINS HOSPITAL JOURNAL CLUB. Meets 4th Monday, at 8.15 P. M.

MEDICAL SOCIETY OF WOMAN'S MEDICAL COLLEGE. SUE RADCLIFF, M. D., President. LOUISE ERICH, M. D., Corresponding Secretary. Meets 1st Tuesday in the Month.

UNIVERSITY OF MARYLAND MEDICAL SOCIETY. Meets 3d Tuesday in each month, 8.30 P. M. HIRAM WOODS, JR., M. D., President, dent. E. E. GIBBONS, M. D., Secretary.

WASHINGTON.

CLINICO-PATHOLOGICAL SOCIETY. Meets at members' houses, 1st and 3d Tuesdays in each month. HENRY B. DEALE, M. D., President. R. M. ELLYSON, M. D., Corresponding Secretary. R. H. HOLDEN, M. D., Recording Secretary.

MEDICAL AND SURGICAL SOCIETY OF THE DISTRICT OF COLUMBIA. Meets 2d Monday each month at members' offices. FRANCIS B. BISHOP, M. D., President. LEWELLYN ELIOT, M. D., Secretary and Treasurer.

MEDICAL ASSOCIATION OF THE DISTRICT OF COLUMBIA. Meets Georgetown University Law Building 1st Tuesday in April and October. W. P. CARR, M. D., President. J. R. WELLINGTON, M. D., Secretary.

MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA. Meets Wednesday, 8 P. M. Georgetown University Law Building. S. C. BUSEY, M. D., President. S. S. ADAMS, M. D., Recording Secretary.

WOMAN'S CLINIC. Meets at 1833 14th Street, N. W., bi-monthly. 1st Saturday Evenings. MRS. M. H. ANDERSON, 1st Vice-President. MRS. MARY F. CASE, Secretary.

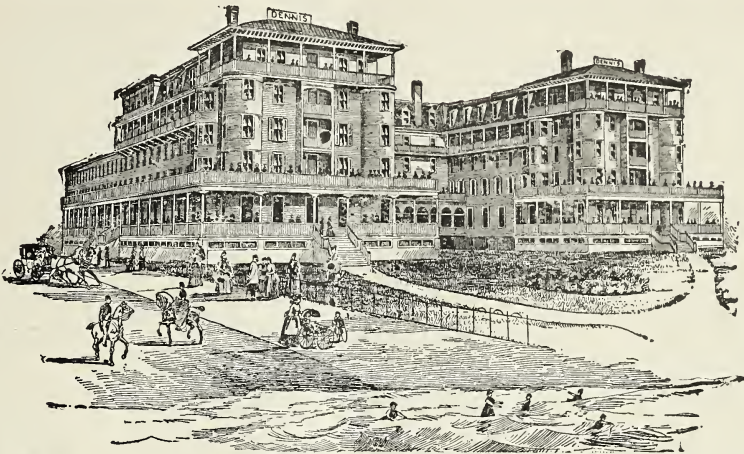
WASHINGTON MEDICAL AND SURGICAL SOCIETY. Meets 1st Monday in each month. N. P. BARNES, M. D., President. W. F. BRADEN, M. D., Secretary.

WASHINGTON OBSTETRICAL AND GYNECOLOGICAL SOCIETY. Meets 1st and 3d Fridays of each month at members' offices. GEORGE BYRD HARRISON, M. D., President. W. S. BOWEN, M. D., Corresponding Secretary.

PROGRESS IN MEDICAL SCIENCE.

WE desire to caution the profession against the cheap imitations of Phillips' Phospho-Muriate of Quinine, Comp. This compound was formulated and introduced many years since by The Chas. H. Phillips Chemical Co., New York, and because of its reputation for efficiency and thorough reliability, other manufacturers, calling themselves reputable, are soliciting the retailers to purchase cheap imitations for substitution on prescription, which is criminal. These substitutes are wholly unreliable—sell because cheap, and when put out in ignorance of physician and patient, create unjust prejudice against the genuine. The sale of these piratical goods can be checked if the physician will distinctly specify "Phillips'" when prescribing, and see that the patient gets it. The Phillips' Phospho-Muriate of Quinine, Comp., will not disappoint where an easily appropriated general tonic is desired, and has proven itself one of the most thoroughly reliable alterato-constructives to be had.

STRAINING AT A GNAT AND SWALLOWING A CAMEL.—A novel announcement made in our last issue calls an interesting point to mind. It reads "Mercauro is not made in Germany." This statement gives food for reflection. In the last few years the American market has been flooded with the products of foreign laboratories. Their value is not the point now under discussion. They are as distinctly proprietary as any of the many American products. In fact, are more than that, a major proportion being actually patented. We do not call to mind a single one of the best known American products which is patented and yet we realize that American proprietary products are very frequently tabooed by American medical practitioners simply upon supposed ethical grounds. We call to mind the attitude assumed by the editor of a prominent medical journal in this matter. How can such a position be defended? If it be unethical to prescribe an American article which is proprietary, wherein is it ethical to prescribe foreign products which are both proprietary and patented? Where does the medical practitioner stand who discards the American article and prescribes the foreign? Has he a logical defence from an ethical or any other standpoint?



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PROGRESS IN MEDICAL SCIENCE.

THE BICYCLE SEAT-POST.—We have carefully examined the Bicycle Seat-Post patented by Mr. James S. Whiteley of Baltimore and take pleasure in calling the attention of our readers to the same. The merits of this device are obvious, as our leading physicians all agree in the view that there must be some means adopted to reduce or obviate the vibration now existing to the riders of bicycles. The principle of bicycling is such that the greatest strain seems to come upon the most sensitive portion of the human body. The saddles are necessarily made narrow for the free movement of the limbs, consequently there is only a small surface to support the weight. While there are a few good and useful bicycle saddles in the market, we have not as yet seen any device that removes the vibration or takes away the strain from the perineum. And the fact remains that some device must be used to overcome the vibration of the wheel as it now stands, and the Whiteley Seat-Post has been devised to meet these requirements. Any comments from bicycle riders and physicians, either pro or con, as to its merits will be gladly welcomed by the inventor.

TREATMENT OF AMENORRHEA AND DYSMENORRHEA WITH APIOLINE.—The emmenagogue properties of parsley have been long known, but its preparations could not be relied on, until the chemical investigations of Chapoteaut showed a means of preparing its active principle, Apioline. This drug is of reddish color, has a decided odor of parsley, a density of 1.115 and a boiling point of 275° C. Laborde's physiological tests on animals show that Apioline increases vascularity and contraction of the smooth muscular fibers of the uterus and that it acts directly in the genito-spinal center of the medulla, thus giving a clear indication of its use. The drug has been carefully studied in Paris and the following case is typical of several in which I myself have used it. Case I.—Miss L., age nineteen, came with a history of irregular menstruation; for past three years it had occurred at periods of from three to six weeks; the flow is scanty and is accompanied by intense abdominal pain in the region of the ovaries and tubes; the pain being so severe as

to cause attacks of syncope, followed by headache. The case appeared to be one of acute amenorrhea and Apioline was exhibited in doses of one capsule morning and evening, for two weeks, when menstruation occurred. To her surprise and gratification, the discharge was profuse, accompanied with but slight pain, no syncope or subsequent headache. The last two periods have been normal.—LEON GARNER, M. D.

THE action of Piperazin Water in rheumatic gout, removing concretions and neutralizing excess acid in the blood, recommends this reliable remedy as a positive curative agent. Treatment must be continued systematically for considerable time, but no unpleasant symptoms of any kind are observed. Piperazin Water is preferable to the administration of piperazin pure, because there is a continuous action and a steady elimination of uric acid secretions; and through the addition of phenocoll, also freely soluble in water, the rheumatic irritating pains are combated. Piperazin Water is mildly carbonated, each bottle containing one gramme of piperazin and phenocoll; the dose per day is the contents of one bottle drank in wineglassfuls at frequent intervals. It is twelve times as effective as lithia water and constitutes the strongest and safest uric acid solvent known. Piperazin Water is largely employed as a timely preventative, fortifying the system, and, in non-medical language, repelling the onslaught of disease. It is prescribed to ward off gout as well as a specific remedy in the treatment of uric acid diathesis.—*Notes on New Remedies.*

ANTITOXINE SYRINGE.—A properly constructed syringe is essential to the successful administration of antitoxine, and such a one is offered by the H. K. Mulford Co. of Philadelphia, the makers of the Extra Potent (concentrated) Antitoxine, which is used so largely. They may be obtained from any instrument dealer. For full particulars address H. K. Mulford Co., Philadelphia or Chicago (112 Dearborn St.).





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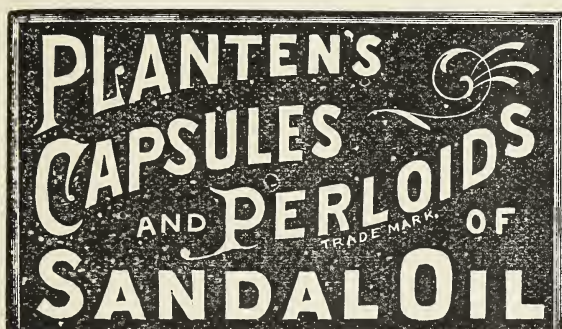
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on the subjects embraced in the curriculum of this College.

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examinations in normal and pathological histology and pathological anatomy.

The SPRING SESSION consists of daily recitations, clinical lectures and practical exercises. This session
begins March 28, 1898, and continues for twelve weeks.

The annual circular for 1897-8, giving full details of the curriculum for the four years, requirements
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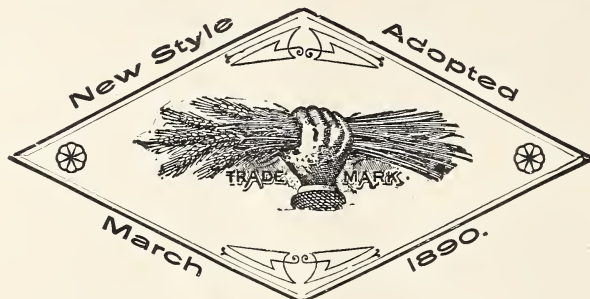
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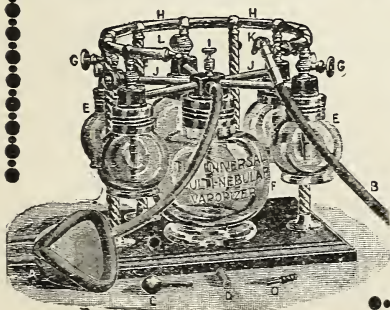
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